



UNITED STATES PATENT AND TRADEMARK OFFICE

UNITED STATES DEPARTMENT OF COMMERCE
United States Patent and Trademark Office
Address: COMMISSIONER FOR PATENTS
P.O. Box 1450
Alexandria, Virginia 22313-1450
www.uspto.gov

| APPLICATION NO. | FILING DATE | FIRST NAMED INVENTOR | ATTORNEY DOCKET NO. | CONFIRMATION NO. |
|-----------------|-------------|----------------------|---------------------|------------------|
|-----------------|-------------|----------------------|---------------------|------------------|

10/006,900

11/13/2001

Didier Johannes R. van Nee

17

1492

7590

09/02/2005

Docket Administrator

Agere Systems Inc.

P.O. Box 614

Berkeley Heights, NJ 07922-0614

EXAMINER

HAMANN, JORDAN J

ART UNIT

PAPER NUMBER

2667

DATE MAILED: 09/02/2005

Please find below and/or attached an Office communication concerning this application or proceeding.

| | | | | |
|------------------------------|------------------------|--|-----------------------------|--|
| Office Action Summary | Application No. | | Applicant(s) | |
| | 10/006,900 | | NEE, DIDIER JOHANNES R. VAN | |
| | Examiner | | Art Unit | |
| | Jordan Hamann | | 2667 | |

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☐ Responsive to communication(s) filed on ____.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-10 is/are pending in the application.
- 4a) Of the above claim(s) ____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) ____ is/are allowed.
- 6) ☒ Claim(s) 1,2 and 5-10 is/are rejected.
- 7) ☒ Claim(s) 3 and 4 is/are objected to.
- 8) ☐ Claim(s) ____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☒ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 13 November 2001 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some * c) ☐ None of:
1. ☒ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. ____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413) |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | Paper No(s)/Mail Date. ____. |
| 3) <input checked="" type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08) | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152) |
| Paper No(s)/Mail Date <u>11/13/2001</u> . | 6) <input type="checkbox"/> Other: ____. |

DETAILED ACTION

Specification

Applicant is reminded of the proper language and format for an abstract of the disclosure.

The abstract should be in narrative form and generally limited to a single paragraph on a separate sheet within the range of 50 to 150 words. It is important that the abstract not exceed 150 words in length since the space provided for the abstract on the computer tape used by the printer is limited. The form and legal phraseology often used in patent claims, such as "means" and "said," should be avoided. The abstract should describe the disclosure sufficiently to assist readers in deciding whether there is a need for consulting the full patent text for details.

The language should be clear and concise and should not repeat information given in the title. It should avoid using phrases which can be implied, such as, "The disclosure concerns," "The disclosure defined by this invention," "The disclosure describes," etc.

35 U.S.C. 112, first paragraph, requires the specification to be written in "full, clear, concise, and exact terms." The specification is replete with terms which are not clear, concise and exact. The specification should be revised carefully in order to comply with 35 U.S.C. 112, first paragraph. Examples of some unclear, inexact or verbose terms used in the specification are: page 5 line 9 the term "o" is not defined, page 15 line 15 the term "FIR" is not written out, page 4 line 7 "extend" appears to have been meant to be "extent", and numerous grammatical errors.

The title of the invention is not descriptive. A new title is required that is clearly indicative of the invention to which the claims are directed.

Claim Rejections - 35 USC § 112

The following is a quotation of the first paragraph of 35 U.S.C. 112:

Art Unit: 2667

The specification shall contain a written description of the invention, and of the manner and process of making and using it, in such full, clear, concise, and exact terms as to enable any person skilled in the art to which it pertains, or with which it is most nearly connected, to make and use the same and shall set forth the best mode contemplated by the inventor of carrying out his invention.

Claim 5 is rejected under 35 U.S.C. 112 first paragraph because it contains terms which are not clear, concise and exact: the term "o" in the equation $y=x+j/oL$ is not defined in the claim or specification and the meaning is unclear.

The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

Claims 9 and 10 are rejected under 35 U.S.C. 112 second paragraph. The term "substantial" in claims 9 and 10 is a relative term which renders the claim indefinite. The term "substantial" is not defined by the claim, the specification does not provide a standard for ascertaining the requisite degree, and one of ordinary skill in the art would not be reasonably apprised of the scope of the invention.

Claim Rejections - 35 USC § 102

The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this

Office action:

A person shall be entitled to a patent unless –

(e) the invention was described in (1) an application for patent, published under section 122(b), by another filed in the United States before the invention by the applicant for patent or (2) a patent granted on an application for patent by another filed in the United States before the invention by the applicant for patent, except that an international application filed under the treaty defined in section 351(a) shall have the effects for purposes of this subsection of an

Art Unit: 2667

application filed in the United States only if the international application designated the United States and was published under Article 21(2) of such treaty in the English language.

Claims 1 and 2 are rejected under 35 U.S.C. 102(e) as being anticipated by Popovic (US 6,804,307).

With respect to claim 1 Popovic discloses a communication system having first communication means, second communication means and a first transmission path as well as at least one further transmission path between said first and said second communication means, in which at least the first communication means are provided with transmission means for each of said transmission paths, which are capable of sending at least part of a communication signal to the second communication means, in which at least the second communication means comprise reception means for each of said transmission paths, which are capable of receiving at least part of said communication signal (Figures 1 and 3B), wherein the first communication means comprises: a training generator (Figure 3B Element 390) that generates a training code to be sent to the reception means enabling the reception means to match a received signal to a corresponding transmitted signal, wherein the training generator is capable of generating a training code with at least nearly ideal cyclic auto-correlation properties such that its cyclic auto-correlation function is at least nearly zero for all cyclic shifts (column 5 lines 1-2), in that the transmission means are capable of concurrently sending said training code in a mutually shifted manner (column 3 lines 50-56) and in that the reception means are capable of performing a cyclic auto-correlation with respect to a received training signal (Figure 1 Element 100).

Art Unit: 2667

With respect to claim 2 Popovic discloses communication system according to claim 1, wherein the reception means are capable of generating the cyclic shifts of a received training code and to correlate these with said training code (Figure 1 Element 100).

Claim Rejections - 35 USC § 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

Claims 6-8 rejected under 35 U.S.C. 103(a) as being unpatentable over Popovic (US 6,804,307).

With respect to claim 6 Popovic discloses communication system according to claim 1, see 102 rejection above, however does not expressly disclose wherein the training codes are preceded and followed by a dummy code during operation.

At the time of the invention it would have been obvious to a person of ordinary skill in the art to precede and follow the training code of Popovic with a dummy code.

The motivation for doing so would have been to separate the training code from the data to prevent overlapping, especially when performing the autocorrelation of the training code.

Therefore, it would have been obvious to precede and follow the training code of Popovic with a dummy code for the benefit of no overlap between the training code and data, especially when performing autocorrelation to obtain the invention as specified in claim 6.

With respect to claim 7 Popovic discloses communication system according to claim 1, see 102 rejection above, however does not expressly disclose wherein the training generator comprises a pre-correction filter for processing the training codes.

At the time of the invention it would have been obvious to a person of ordinary skill in the art to add a pre-correction filter to the training generator of Popovic.

The motivation for doing so would have been to shape the training code to reduce the effect of noise in the transmission on the training code.

Therefore, it would have been obvious to add a pre-correction filter to the training generator of Popovic for the benefit of shaping the training code to reduce the affect of noise on the transmitted training code to obtain the invention as specified in claim 7.

With respect to claim 8 Popovic discloses communication system according to claim 1, see 102 rejection above, wherein the receiving means comprises storage means for storage of one or more training codes (Figure 1 Element 120), however does not expressly disclose wherein the training generator comprises storage means for storage of one or more training codes.

Art Unit: 2667

At the time of the invention it would have been obvious to a person of ordinary skill in the art to place a storage means in the training generator to store one or more training codes.

The motivation for doing so would have been to store the training codes after being generated (column 7 lines 17-21).

Therefore it would have been obvious to place the storage means in the receiver of Popovic in the training generator of Popovic for the benefit of storing the training codes after being generated to obtain the invention as specified in claim 8.

Allowable Subject Matter

Claims 3 and 4 are objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.

Conclusion

The prior art made of record and not relied upon is considered pertinent to applicant's disclosure.

Wallace et al. (US 6,473,467) discloses a method and apparatus for measuring and reporting channel state information in a high efficiency, high performance communications system, one embodiment of which is antenna diversity.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Jordan Hamann whose telephone number is

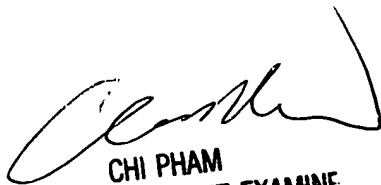
Art Unit: 2667

(571) 272-8564. The examiner can normally be reached on Monday-Friday 8:30-4:30.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Chi Pham can be reached on (571) 272-3179. The fax phone number for the organization where this application or proceeding is assigned is (571)-273-2800.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

JJH


CHI PHAM
SUPERVISORY PATENT EXAMINE
TECHNOLOGY CENTER 2667 8/18/05